



UNITED STATES PATENT AND TRADEMARK OFFICE

11.13
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,642	02/27/2004	Yefim Sukhman	483018016US1	7240

25096 7590 02/06/2008
PERKINS COIE LLP
PATENT-SEA
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER

FLORES RUIZ, DELMA R

ART UNIT	PAPER NUMBER
----------	--------------

2828

MAIL DATE	DELIVERY MODE
-----------	---------------

02/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/788,642	Applicant(s) SUKHMAN ET AL.	
	Examiner Delma R. Flores Ruiz	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

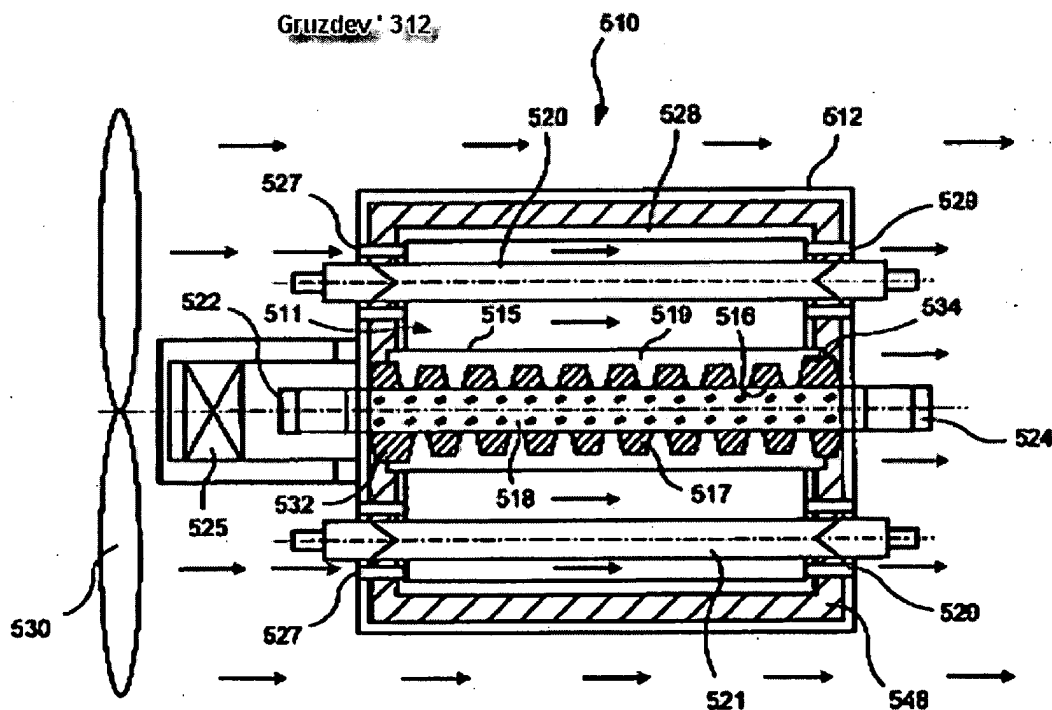
Claims 8 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 8 and 16, the phrase: "the air flow in a direction to cool said laser source *before* cooling said power source" is indefinite, because on Claims 7 and claim 15, the laser arrangement is a power source substantially adjacent to one of the first or second ends of the laser source and cooling fan positioned substantially adjacent said power source, how is possible the air flow in a direction to cool said laser source *before* cooling said power source, if one side of the power source have a laser source and the other side have a cooling fan. Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruzdev et al (2003/0021312) in view of Ekstrand (4,953,176).



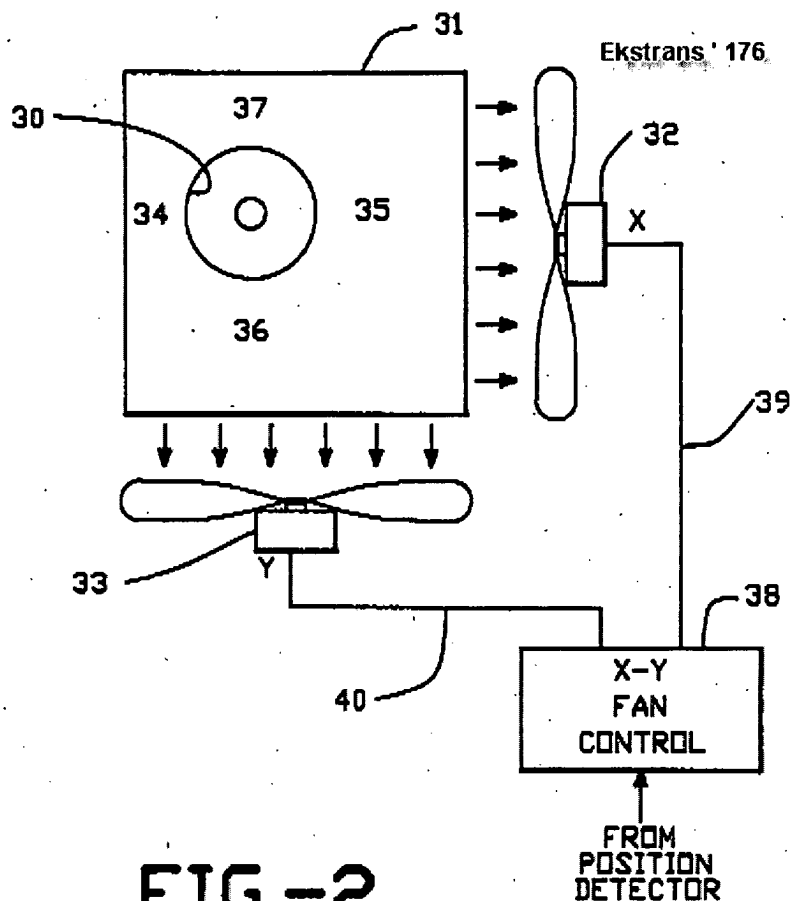


FIG.-2

Regarding claims 1 and 2, Gruzdev disclose on Figure 5, a laser which comprises: a laser source (see Figure 5, Character 518, the reference call "laser rod"); a power source (see Fig. 5, Character 525, the reference call "electric motor" and by definition the electric motor has a power supply (electrical energy) to produce mechanical energy) for causing the laser source to generate a laser beam; a fan (see Fig. 5, Character 530) for generating an air flow; wherein the laser source (see Fig. 5, Character 518) and the power source (see Fig. 5, Character 525) each have an exterior surface; and wherein the laser source (see Fig. 5, Character 518) and the power source (see Fig. Character 525) are arranged in an end-to-end series relation along a

longitudinal axis (see Fig. 5) substantially developed surface to facilitate transfer of heat to air; wherein the fan (see Fig. 5, Character 530) directs the air flow substantially adjacent to the developed surface of each of said laser source (see Fig. 5, Character 518) and power source (see Fig. 5, Character 525).

Gruzdev discloses the claimed invention except for the fan directs the air flow generally parallel with the longitudinal axis to pass first substantially adjacent to the exterior surface of the laser source for the cooling thereof, and then to pass substantially adjacent to the exterior surface of the power source for subsequent cooling thereof. Ekstrand teaches providing his device with fan directs the air flow generally parallel with the longitudinal axis. However, it is well known in the art to apply the fan directs the air flow generally parallel with the longitudinal axis as discloses by Ekstrand in Column 3, Lines 4 – 6 and Column 4, Lines 11 -14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known fan directs the air flow generally parallel with the longitudinal axis as suggested by Ekstrand to the laser of Gruzdev, because could be used to cooling medium and if the fan directions were reversed to blow cool air onto the cooling fins, rather than to draw cool air across them and then the symmetry of cooling fins would be adjusted accordingly (see Column 3, Lines 4 – 6 and Column 4, Lines 11 -14 of Ekstrand).

Regarding claim 3, Gruzdev disclose on Figure 2, surfaces are cooling fins (see

Fig. 2, Character 56 and Paragraph [0012]).

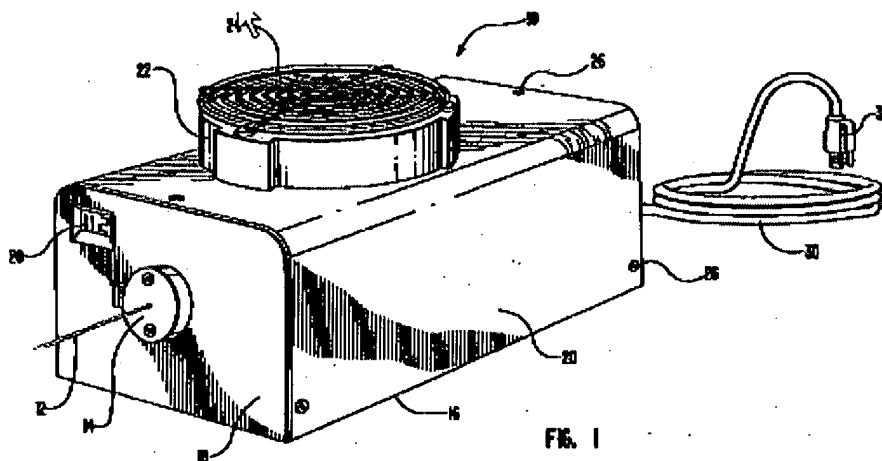
Regarding claim 4, Gruzdev disclose on Figure 2, cooling fins on said laser source are profiled in a direction along the longitudinal axis of the laser (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 5, Gruzdev disclose on Figure 5, a laser source (see Fig. 5, Character 518) and said power source (see Fig. 5, Character 525) have generally equal cross-sectional areas in a direction perpendicular to the longitudinal axis.

Regarding claim 8, Gruzdev discloses the claimed invention except the air flow in a direction to cool said laser source *before* cooling said power source Ekstrand teaches providing his device with the air flow in a direction to cool said laser source *before* cooling said power source. However, it is well known in the art to apply the fan directs the air flow generally parallel with the longitudinal axis as discloses by Ekstrand in Column 3, Lines 4 – 6 and Column 4, Lines 11 -14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known the air flow in a direction to cool said laser source *before* cooling said power source as suggested by Ekstrand to the laser of Gruzdev, because could be used to cooling medium and if the fan directions were reversed to blow cool air onto the cooling fins, rather than to draw cool air across them and then the symmetry of cooling

fins would be adjusted accordingly (see Column 3, Lines 4 – 6 and Column 4, Lines 11 - 14 of Ekstrand).

Claims 6, 14 and 22 are rejected under 35 U.S.C. 103(a) as being obvious over Gruzdev et al (2003/0021312) in view of Ekstrand (4,953,176) further in view of Ostler (5,550,853).



Regarding claims 6, 14 and 22, Gruzdev in view of Ekstrand discloses the claimed invention except shroud covering. Ostler teaches providing his device with a shroud covering. However, it is well know in the art to apply the shroud covering as discloses by Ostler in see Fig. 1, Character 20. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known shroud covering as suggested by Ostler to the laser of Gruzdev in view of

Ekstrand, because could be use to protect the device from atmosphere, dust, environment, etc. see Figure 1, Character 20, of Ostler.

Claims 7 – 13 are rejected under 35 U.S.C. 103(a) as being obvious over Gruzdev et al (2003/0021312) in view of Ekstrand (4,953,176) further in view of Ostler (5,550,853).

Regarding claim 7, Gruzdev disclose on Figure 5, a laser which comprises: a laser source (see Fig. 5, Character 518) having a first end, a second end spaced apart from a first end along a longitudinal axis, a laser resonator (see Fig. 5, 522 through 524); a laser media (see Fig. 5, Character 518); a power source (see Fig. 5, Character 525, the reference call "electric motor" and by definition the electric motor has a power supply (electrical energy) to produce mechanical energy) substantially adjacent to one the first or second ends of said laser source (see Fig. 5, Character 518) and adapted for causing the laser source (see Fig. 5, Character 518) to generate a laser beam, wherein the power source (see Fig. 5, Character 525) and the laser source (see Fig. 5, Character 518) are aligned along the longitudinal axis; and cooling fan (see Fig. 5, Character 530) adapted for generating an air flow for cooling said laser source (see Fig. 5, Character 518) and said power source (see Fig. 5, Character 525).

Gruzdev discloses the claimed invention except for the fan directs the air flow

generally parallel with the longitudinal axis to pass first substantially adjacent to the exterior surface of the laser source for the cooling thereof, and then to pass substantially adjacent to the exterior surface of the power source for subsequent cooling thereof. Ekstrand teaches providing his device with fan directs the air flow generally parallel with the longitudinal axis. However, it is well known in the art to apply the fan directs the air flow generally parallel with the longitudinal axis as discloses by Ekstrand in Column 3, Lines 4 – 6 and Column 4, Lines 11 -14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known fan directs the air flow generally parallel with the longitudinal axis as suggested by Ekstrand to the laser of Gruzdev, because could be used to cooling medium and if the fan directions were reversed to blow cool air onto the cooling fins, rather than to draw cool air across them and then the symmetry of cooling fins would be adjusted accordingly (see Column 3, Lines 4 – 6 and Column 4, Lines 11 -14 of Ekstrand).

Gruzdev discloses the claimed invention except for electrode. Ostler teaches providing his device with an electrode. However, it is well know in the art to apply the electrode as discloses by Ostler in see Fig. 2 Character 46 and 48. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known electrode as suggested by Ostler to the laser of Gruzdev, because could be use to stimulating the laser see (see Fig. 2, Characters 46, 48, the reference call "cathode and anode") of Ostler.

Regarding claim 8, Gruzdev discloses the claimed invention except the air flow in a direction to cool said laser source *before* cooling said power source Ekstrand teaches providing his device with the air flow in a direction to cool said laser source *before* cooling said power source. However, it is well known in the art to apply the fan directs the air flow generally parallel with the longitudinal axis as discloses by Ekstrand in Column 3, Lines 4 – 6 and Column 4, Lines 11 -14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known the air flow in a direction to cool said laser source *before* cooling said power source as suggested by Ekstrand to the laser of Gruzdev, because could be used to cooling medium and if the fan directions were reversed to blow cool air onto the cooling fins, rather than to draw cool air across them and then the symmetry of cooling fins would be adjusted accordingly (see Column 3, Lines 4 – 6 and Column 4, Lines 11 - 14 of Ekstrand).

Regarding claim 9, Gruzdev disclose on Figure 5 cooling fan (see Fig. 5, Character 530) generates the air flow in a direction to cool said power source (see Fig. 5, Character 525) before cooling said laser source (see Fig. 5, Character 518).

Regarding claim 10, Gruzdev disclose on Figure 5, substantially developed surface to facilitate transfer of heat to air; wherein the fan (see Fig. 5, Character 530) directs the air flow substantially adjacent to the developed surface of each of said laser

source (see Fig. 5, Character 518) and power source (see Fig. 5, Character 525).

Regarding claim 11, Gruzdev disclose on Figure 5, surfaces are cooling fins (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 12, Gruzdev disclose on Figure 2, cooling fins on said laser source are profiled in a direction along the longitudinal axis of the laser (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 13, Gruzdev disclose on Figure 5, a laser source (see Fig. 5, Character 518) and said power source (see Fig. 5, Character 525) have generally equal cross-sectional areas in a direction perpendicular to the longitudinal axis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15, 17 – 21 are rejected under 35 U.S.C. 102(b) as being anticipated by

Gruzdev et al (2003/0021312).

Regarding claim 15, Gruzdev disclose on Figure 5 a laser which comprises: a laser source (see Fig. 5, Character 518); a power source (see Fig. 5, Character 525, the reference call "electric motor" and by definition the electric motor has a power supply (electrical energy) to produce mechanical energy) substantially adjacent said laser source (see Fig. 5, Character 518) and adapted for causing the laser source to generate a laser beam; and a cooling fan (see Fig. 5, Character 530) at one end of the power source (see Fig. 5 Character 525), the cooling fan being adapted for generating an air flow directed in a generally straight line path with said laser source (see Fig. 5, Character 518) and said power source (see Fig. 5, Character 525) for cooling said laser source (see Fig. 5, Character 518) and said power source (see Fig. 5, Character 525).

Regarding claim 17, Gruzdev disclose on Figure 5 cooling fan (see Fig. 5, Character 530) generates the air flow in a direction to cool said power source (see Fig. 5, Character 525) before cooling said laser source (see Fig. 5, Character 518).

Regarding claim 18, Gruzdev disclose on Figure 5, substantially developed surface to facilitate transfer of heat to air; wherein the fan (see Fig. 5, Character 530) directs the air flow substantially adjacent to the developed surface of each of said laser source (see Fig. 5, Character 518) and power source (see Fig. 5, Character 525).

Regarding claim 19, Gruzdev disclose on Figure 5, surfaces are cooling fins (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 20, Gruzdev disclose on Figure 2, cooling fins on said laser source is profiled in a direction along the longitudinal axis of the laser (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 21, Gruzdev disclose on Figure 5, a laser source (see Fig. 5, Character 518) and said power source (see Fig. 5, Character 525) have generally equal cross-sectional areas in a direction perpendicular to the longitudinal axis.

Response to Arguments

Applicant's arguments with respect to claims 1 – 23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

Application/Control Number:
10/788,642
Art Unit: 2828

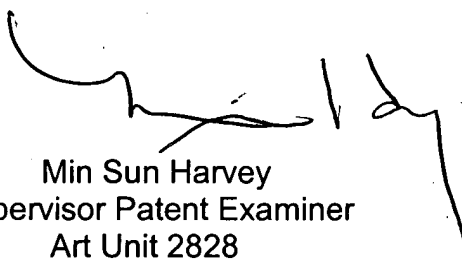
Page 14

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Delma R. Flores Ruiz
Examiner
Art Unit 2828



Min Sun Harvey
Supervisor Patent Examiner
Art Unit 2828

DRFR/MH
January 29, 2008